

WHAT IS CLAIMED IS:

1. A transistor comprising:
 - a metal advanced lateral crystallization region formed on a substrate with a semiconductor material and including a channel region; and
 - a plurality of metal advanced crystallization regions formed on sides of the metal advanced lateral crystallization region with a semiconductor material, wherein at least one boundary between the metal advanced lateral crystallization region and one of the metal advanced crystallization regions is located outside the channel region.
2. The transistor according to claim 1, wherein the metal advanced lateral crystallization region include impurity doped regions formed on sides of the channel region.
3. The transistor of claim 1, wherein the metal advanced lateral crystallization region includes source and drain regions.
4. The transistor of claim 1, wherein the metal advanced lateral crystallization region includes no dopant portions formed on sides of the channel region.
5. A transistor comprising:
 - a channel region;
 - a source region having a first source portion adjacent to the channel region and a second source portion adjacent to the first source portion; and
 - a drain region having a first drain portion adjacent to the channel region and a second drain portion adjacent to the first drain portion;wherein the channel region and at least one of the first source portion and the first drain portion comprise a metal advanced lateral crystallization region.
6. The transistor of claim 5, wherein the second source portion comprises a metal advanced crystallization region.
7. The transistor of claim 5, wherein the second drain portion comprises a metal advanced crystallization region.
8. The transistor of claim 5, wherein the source and drain regions are impurity doped.

9. The transistor of claim 5, wherein the channel region, the first source portion and the first drain portion comprise the metal advanced lateral crystallization region, the second source region comprises a metal advanced crystallization region, and the second drain region comprises a metal advanced crystallization region.

10. A transistor comprising:

- a metal advanced lateral crystallization region formed on a substrate with a semiconductor material and including a channel region; and

- a plurality of metal advanced crystallization regions formed on sides of the metal advanced lateral crystallization region with a semiconductor material, wherein at least one portion between the metal advanced lateral crystallization region and one of the metal advanced crystallization regions is located outside the channel region.

11. A transistor comprising:

- a channel region;

- a source region having a source portion adjacent to the channel region; and

- a drain region having a drain portion adjacent to the channel region;

- wherein the channel region and at least one of the source portion and the drain portion comprise a metal advanced lateral crystallization region.

12. A transistor comprising:

- a metal-induced lateral crystallization region formed on a substrate with a semiconductor material and including a channel region; and

- a plurality of metal induced crystallization regions formed on sides of the metal induced lateral crystallization region with a semiconductor material, wherein at least one boundary between the metal induced lateral crystallization region and one of the metal induced crystallization regions is located outside the channel region.

13. A transistor comprising:

- a channel region;

- a source region having a first source portion adjacent to the channel region and a second source portion adjacent to the first source portion; and

- a drain region having a first drain portion adjacent to the channel region and a second drain portion adjacent to the first drain portion;

- wherein the channel region and at least one of the first source portion and the first drain portion comprise a metal induced lateral crystallization region.